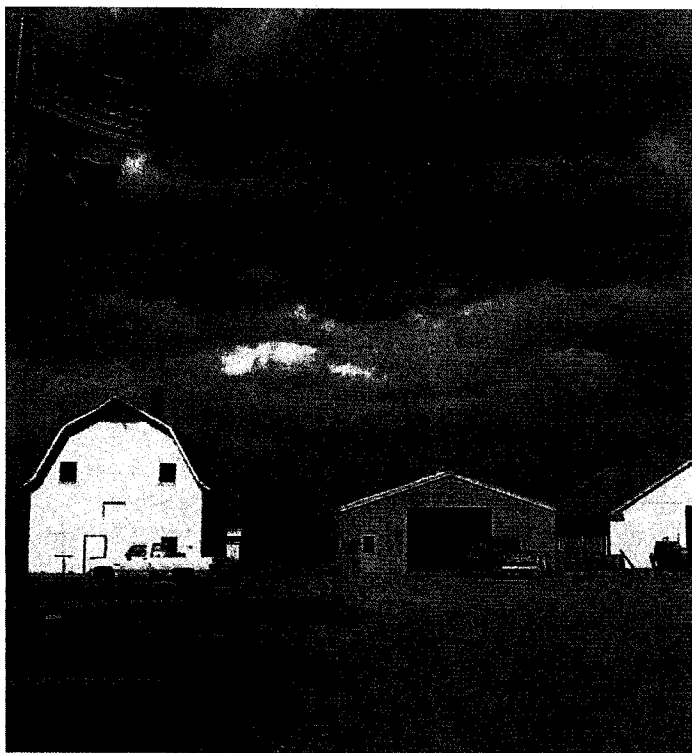




MAES RESEARCH FACILITIES STATEWIDE PROJECTS

EVALUATION PROCESS

Individual project needs are developed through a comprehensive evaluation process. Facility condition evaluations are performed on a biennial basis through a collaborative effort of the MAES staff and administrators along with MSU Facilities Planning, Design & Construction personnel. Facility upgrades, improvements and modernizations are evaluated with respect to code and deferred maintenance need, programmatic requirements and allowable budget.



RECOMMENDATION FOR IMPLEMENTATION

Montana Agriculture Experiment Station projects are cataloged on a center by center basis and reprioritized based upon the MAES system needs by the MAES Director/College of Agriculture Dean in conjunction with the State A&E Division, with respect to funding availability. Projects within research centers or with similar scopes of work may be consolidated to maximize efficiency and implementation of design and construction services as well as for economies of scale.

SCOPE OF WORK

The Montana Agricultural Experiment Station's vision is to create environments where people excel through innovative learning, discovery and outreach programs in agriculture and natural resources.

MAES reflects the University's unique Land Grant designation. MAES generates and disseminates superior knowledge and technological solutions to increase the competitiveness from communities capturing value from Montana's agricultural and natural resources, preserve environmental quality and improve the quality of life of all of our citizens.

In order to achieve their research mission, MAES seeks to continually improve, upgrade, renovate, and modernize facilities statewide through:

- Code deferred and maintenance improvements
- Energy and environmental upgrades
- Health, safety and welfare improvements
- Technology improvements
- Building equipment and infrastructure modernization
- Roof replacements
- Fencing and corral maintenance
- Renovation and new construction
- Maximize efficiency of operations
- Improve space utilization of limited facility resources
- Implementation of modern animal care and use and biosecurity standards
- Compliance with regulatory requirements

PROPOSED SCHEDULE

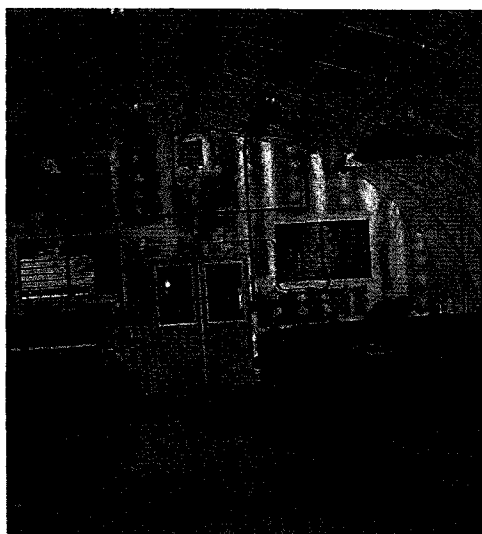
Projects are executed in accordance with State statutes and A&E Division practices. High priority projects would begin immediately upon approval by the State of Montana with individual schedules being determined by scope of work, site conditions and availability of resources. Subsequent projects are released over the course of two years until funding allocations have been allocated and expended. An anticipated final completion by summer of 2014 is projected.



MAES RESEARCH FACILITIES STATEWIDE PROJECTS

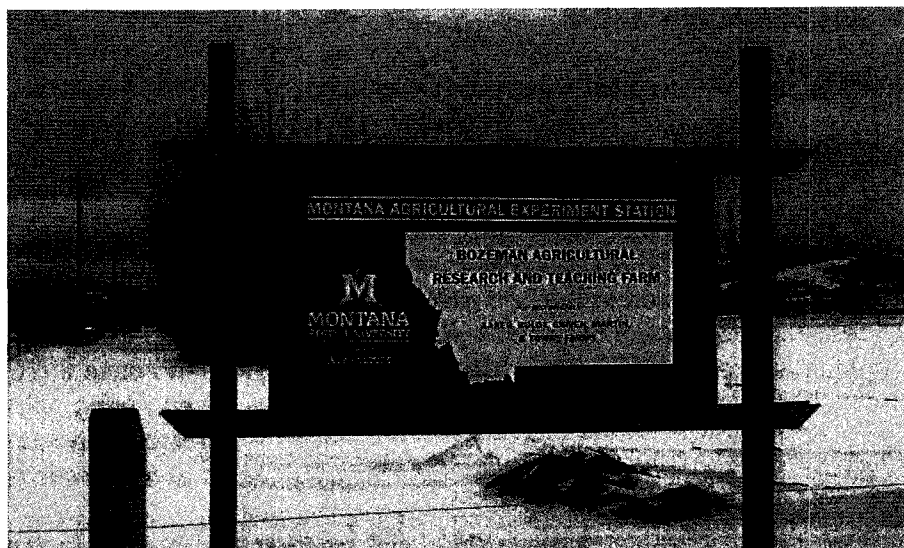
OVERVIEW

The MAES projects proposal is the number five priority within the Montana University Systems' bond request. The MAES proposal includes multiple maintenance, renovation, new construction, and infrastructure improvement projects intended to be implemented at the statewide MAES field research and outreach facilities. Projects are determined on priority needs as determined by comprehensive evaluations on a basis of code and deferred maintenance need, programmatic requirements and allowable budget.



LRBP BOND BILL FOR THE 2012-2013 BIENNIUM

The requested appropriations for the 2012-2013 Biennium is \$1,000,000 for Montana AES.



THE NEED

The Montana Agricultural Experiment Station (MAES) is a foundational component of the original land grant college which conducts research focused on state, regional and national issues. MAES, in collaboration with the College of Agriculture, conducts research relevant to the challenges in Montana's agricultural and natural resource communities and provides instruction in dynamic degree programs. This integration creates opportunities for students and faculty to excel through hands-on learning, to serve through campus and community engagement, to explore unique solutions to distinct and interesting questions, and to connect Montanans with the global community through research discoveries and outreach.

The projects within this proposal will allow the Montana Agricultural Experiment Station to maintain, upgrade and modernize infrastructure and improve space utilization and functionality within facilities near Bozeman and at two of seven facilities located throughout the state.

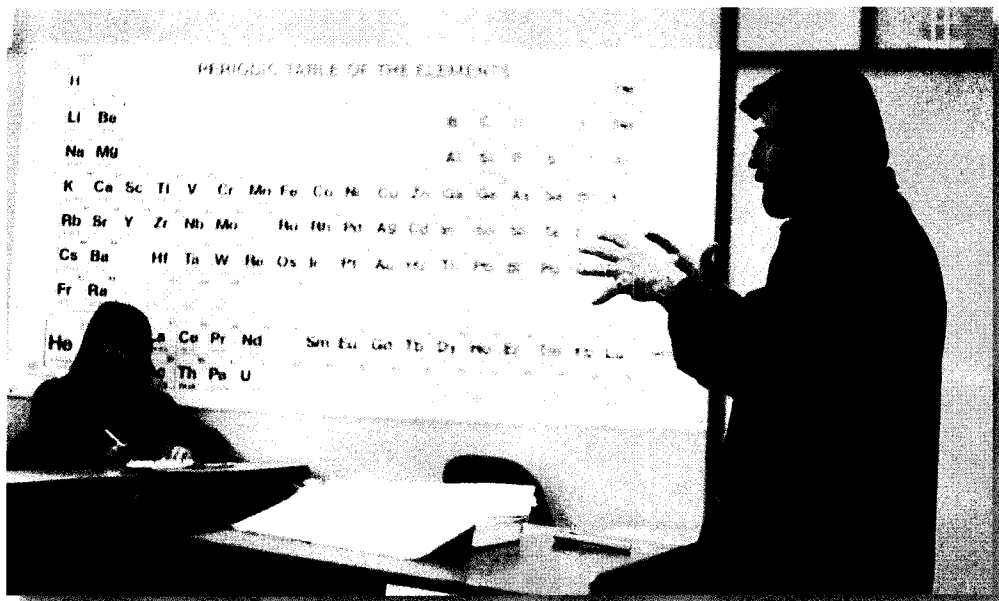


MSU BILLINGS SCIENCE & INSTRUCTIONAL TECHNOLOGY CENTER



PROJECT DESCRIPTION

As the Montana University Systems' number 2 priority, the Montana State University Billings Science Building is the home for all the Sciences' undergraduate, graduate and research studies and its faculty. Its 14 classrooms and labs are in dire need of updating to meet the demands of today's curriculum and support 10%-12% of our student FTE throughput.



THE NEED

The ability to provide a safe learning environment for our students is paramount and the sciences' pose some of the greatest risks to their health and safety. Hazardous and radioactive materials demand the latest environmental safeguards.

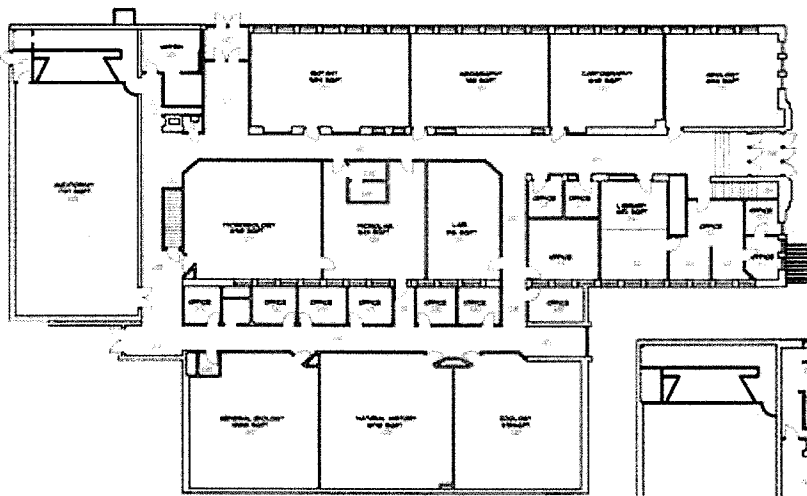
This project will allow MSU Billings to co-locate information technology resources in one central location with the next generation high speed bandwidth infrastructure to support the sciences and their research; and provided walk-in technology support for students, faculty and staff.

ESTIMATED COST

Land Acquisition:	\$0
Site Investigation:	\$15,000
Consultant Services:	\$1,475,000
Construction Costs:	\$10,630,000
Site Development:	\$225,000
Utilities:	\$75,000
Telecomm. Systems:	\$250,000
Furnishings & Equipment:	\$500,000
Contingency:	\$1,475,000
A&E Supervisory Fee:	\$0
Construction Mgmt:	\$0
Commissioning:	\$50,000
Construction Testing:	\$30,000
Percent for the Arts:	\$25,000
Other:	\$0
Total Estimated Cost:	\$14,750,000



Photo courtesy The Billings Gazette



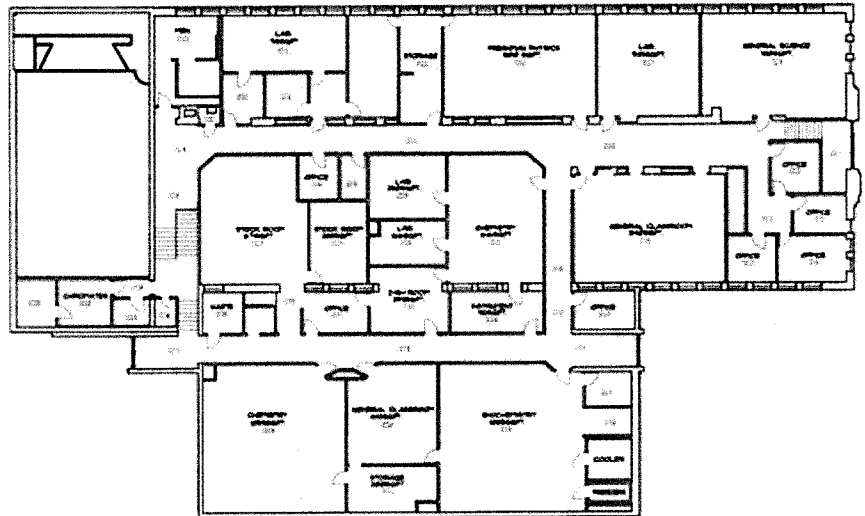
THE NEED

The original Science Hall was built in 1947 with an addition completed in 1976. The 49,000 sf, two-story building provides labs, classrooms, offices, an auditorium and support spaces. With the changes in teaching paradigms and technology, the building falls far short of providing the necessary facilities to support an integrated learning environment for the sciences of tomorrow.

- The limited space does not allow students to be active participants in a hands-on laboratory environment.
- There is no integration of computers at the benches or any other multi-media technologies.
- The current building does not provide adequate research laboratories for faculty use.
- The layout does not allow for efficient use and storage of shared laboratory equipment.
- The current building does not engage the students or visitors in science with collections and displays.

SITE & BUILDING ASSESSMENT

- Will eliminate 20% of the deferred maintenance within the university's academic facilities.
- Will provide redundant infrastructure to support failed system rollover and disaster recovery.



- There is inadequate space for outside of classroom interaction between faculty and students.
- The students have no dedicated space to meet with tutors and class counselors.
- Faculty offices are small and have no daylighting.
- The labs are not flexible to adapt to changing teaching paradigms, i.e., teaching lectures in the laboratories.
- The building layout does not take advantage of any daylighting, natural ventilation or any other sustainable design strategies.

RECOMMENDATION

This project would be constructed in two-phases to avoid interrupting the science curricula or having to lease temporary laboratory facilities. The 20,000 sf lab addition would be constructed first followed by the renovation. During the renovation, existing spaces across the campus will be converted into temporary offices and classrooms.

PROPOSED TIME LINE

Submit to the State. October 2010
 Allocate Design Fund May 2011
 Advertise for Bid. February 2012
 Start Construction April 2012
 Complete Construction July 2013
 Fit Out/Start-Up. August 2013



This rendering shows the reconstruction of the MSU Billings Science Building and the new space allocation.



MSU-BOZEMAN CLASSROOM RENOVATIONS

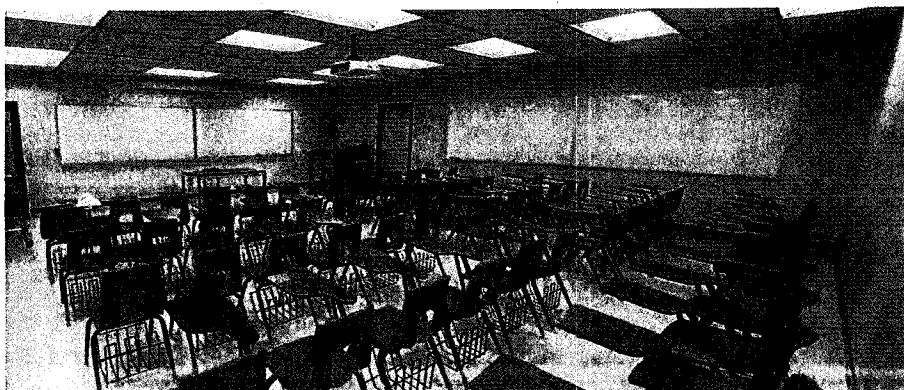
The University's Classroom Committee (consisting of students and faculty, and ITC, Facilities Services and FPDC staff), assessed all university/registrar-controlled classrooms and identified 19 classrooms, ranging from small (50 seats and under) to large (115 seats and over) as priorities for classroom renovations, modeled after the 2009 renovation of Reid Hall Rm 108 (bottom of next page).

MSU's commitment to classroom modernization as a priority is to overcome decades of minimal improvements. In 2011 MSU-Bozeman will renovate three classrooms from the priority list using university Major Maintenance and Provost funds. With LRBP funds, MSU may be able to renovate an additional six classrooms.

- **Reid Hall Rm 105**
185 seats
- **AJMJohnson Hall Rm 222**
50 seats
- **Wilson Hall Rm 1-143**
60 seats

LRBP Bond Bill for the 2012-2013 Biennium

The requested appropriations for the 2012-2013 Biennium is \$2,500,000 for classroom renovations.



Classroom renovations will address deferred maintenance including electrical and technology upgrades, energy efficient lighting, ADA accessibility, improved finishes, flexible configuration for increased functionality and utilization.

Preliminary cost estimates range according to classroom size. Renovation of a large classroom (115 seats and over) may range between \$500-\$700K; a midsize classroom (51-114 seats) approximately \$400-\$500K; and a small classroom (50 and under seats) approximately \$150K.

The priority list includes a range of classroom sizes in a variety of academic buildings resulting in a wide assortment of program improvements and positive impact to student learning environments across campus.

- **Linfield Hall Rm 125**
190 seats
- **Wilson Hall Rm 119**
64 seats

Reid Hall Rm 108
184 seats
(example of model classroom renovated in 2009- ~\$600K)

